

Operational Noise Management Plan

Dolwendeo Quarry





Document Information

Operational Noise Management Plan

Dolwende Quarry

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by pitt&sherry Operations Pty Ltd (P&S) to prepare an Operational Noise Management Plan (ONMP) for Dolwende Quarry (the 'quarry'), situated at Hollydeen, approximately 6kms northwest of Denman, NSW.

The ONMP has been prepared to assist with the management of noise emissions associated with quarry operations and to address relevant Development Consent Conditions (Department of Planning, NSW, 2016) and Recommended Conditions of Approval (NSW EPA, 2016) for the quarry. The relevant conditions are reproduced in detail in Section 2 of the ONMP.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Consent Conditions and Noise Criteria

Appendix B and **Appendix C** reproduce the Development Consent Recommended Conditions of Approval for the quarry in full. Notwithstanding, the relevant Development Consent Conditions and Recommended Conditions of Approval for the quarry form the basis of the ONMP and hence are reproduced below:

2.1 Development Consent

Schedule 3, Condition 5 of the Dolwendee Development Consent (SSD6519) (DC) presents the relevant requirement pertaining to the implementation of a Noise Management Plan to manage quarry noise emissions from the quarry. The Condition states:

The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary.

The Noise Management Plan shall:

- a) be prepared in consultation with the EPA;*
- b) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless otherwise agreed by the Secretary;*
- c) describe the measures that would be implemented to ensure:*
 - compliance with the noise criteria in this consent;*
 - best practice noise management is being employed; and*
 - noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 4).*

The Applicant must implement the approved Noise Management Plan as approved from time to time by the Secretary.

2.2 Recommended Conditions of Approval

2.2.1 Noise Conditions

Construction Noise

5.1 All construction work at the premises must be conducted between 7am to 6pm Monday to Friday and between 8am to 1pm Saturdays and at no time on Sundays and public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.

Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

Operational Noise

6.1 All quarrying operations, including extraction, processing and loadings / transport must be conducted between 7am to 6pm Monday to Friday and 7am to 1pm Saturdays and at no time on Sundays and public holidays.

Limit Conditions

7.1 Noise generated at the premises must not exceed 35dB(A) LAeq (15 minute) at any noise sensitive receiver.

7.2 The noise limits set out in condition 7.1 apply under all meteorological conditions except for the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

7.3 To determine compliance:

a) with the Leq(15 minute) noise limit specified above, the noise measurement equipment must be located:

- approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or

- *within 30 metres of a dwelling facade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable*
- *within approximately 50 metres of the boundary of a National Park or a Nature Reserve.*

b) with the noise limits specified above, the noise measurement equipment must be located:

- *at the most affected point at a location where there is no dwelling at the location; or*
- *at the most affected point within an area at a location prescribed by sections (a) or (b) of this condition.*

7.4 A non-compliance of the noise limits specified above will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- *at a location other than an area prescribed by condition 7.3 (a) and 7 (b) above; and/or*
- *at a point other than the most affected point at a location.*

7.5 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

7.6 For the purposes of condition 7.3:

- a) Data recorded by the meteorological station identified as EPA Identification Point (Point number to be specified in the Environment Protection Licence) must be used to determine meteorological conditions; and*
- b) Temperature inversion conditions (determined using the Sigma Theta method) are to be determined by consistent with Part E4 of Appendix E to the NSW Industrial Noise Policy.*

8. *Requirement to Monitor Noise*

8.1 *To assess compliance with Condition 7.1, attended noise monitoring must be undertaken in accordance with Conditions 7.3 and:*

- a) At, or at a location representative of, the most-affected sensitive receiver(s);*
- b) occur quarterly in a reporting period;*
- c) occur 1.5 hours during operating hours*
- d) occur for three consecutive operating days.*

(Note that if four rounds of quarterly monitoring show compliance with the noise limits in this licence the licensee may apply to the EPA to have the monitoring frequency reduced.)

9. *Reporting Conditions 9.1*

9.1 *Noise Monitoring Report*

A noise compliance assessment report must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limit presented in Condition 7.1;*
- b) measurement and reporting of C-weighted noise levels; and*
- c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition 7.1.*

Additions to Definition of Terms of the licence

- *NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."*

2.3 Operating Hours and Noise Criteria

Schedule 3, Condition 1 of the DC outlines the approved hours of operation for the operation of the quarry. **Condition 1** is reproduced in **Table 1**.

Table 1 Hours of Operation	
Activity	Permissible Hours
<i>Construction and quarrying operations including loading and dispatch of laden trucks</i>	<ul style="list-style-type: none"> ■ 7 am to 6 pm Monday to Friday ■ 8 am to 1 pm Saturday ■ At no time on Sundays or public holidays
<i>Blasting</i>	<i>9 am to 5 pm Monday to Friday (except public holidays)</i>
<i>Maintenance</i>	<i>At any time, provided that these activities are not audible at any privately-owned residence</i>

2.4 Operational Noise Criteria

Condition 3 of the DC outlines the operational noise criteria applicable to quarrying activities, which are presented in **Table 2**.

Table 2 Noise Criteria	
Receiver	Noise Criteria dB LAeq(15min)
All privately owned residences	35

Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria above do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

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3 Best Practice Management and Control of Noise Emissions

To minimise the noise impacts associated with the quarry, the following noise management actions will be undertaken.

3.1 Engineering Noise Controls and Management of Emissions

With respect to acoustically significant plant, the Noise and Vibration Impact Assessment (Muller Acoustic Consulting Pty Ltd, 2015), prepared for the Environmental Impact Statement (EIS) for the quarry identified that quarry operations complied with relevant noise criteria at all receivers.

The primary noise source associated with the quarry was identified at the processing plant. The noise contribution of processing during noise enhancing source to receiver winds was 20dBA to 34dBA, which satisfies the Project Specific Noise Levels (PSNLs).

Notwithstanding, where onsite plant varies from the original assessment (see **Table 3**), Sound Power Tests are recommended to be completed to quantify noise emissions from new plant and equipment brought onto site. The screening tests are designed to identify noisy plant that is brought to site that may generate elevated levels within the surrounding community.

This information will be used to help plan operations and ensure compliance with relevant noise criteria. The testing will be completed in general accordance with the following Australian and International Standards:

- AS 2012.1 'Acoustics – Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors - Stationary test condition - Determination of compliance with limits for external noise';
- ISO 4872 'Acoustics – Measurement of airborne noise emitted by construction equipment intended for outdoor use - Method for determining compliance with noise limits';
- ISO 6393 'Acoustics – Measurement of exterior noise emitted by earth-moving machinery – Stationary test conditions'; and
- ISO 6395 'Acoustics – Measurement of exterior noise emitted by earth-moving machinery – Dynamic test conditions'.

Table 3 Quarry Equipment Sound Power Levels

Item	Sound Power Level (SWL), dBA
Mobile Jaw Crusher (x1)	110
Mobile Cone Crusher (x1)	113
Mobile Screen (x1)	106
Excavator (x1)	111
Loader (x1)	106
Road Trucks (x3)	102
Water Truck (x1)	101
Diesel Generator (x1)	93
Drill Rig (x1)	114
Dozer (x1)	110
Haul Truck (x1)	108

3.2 Training and Education

All employees and contractors working at the quarry will undergo a project induction, during which personnel will be made aware of the location of noise sensitive receivers and the mitigation measures to be implemented to reduce noise impact to the community. Records of noise training and awareness for all staff and contractors will be held on site. Signage is to be placed at the front entrance advising truck drivers of their requirement to minimise noise both on and off-site.

4 Monitoring, Actions, Reporting and Ongoing Review

4.1 Attended Noise Monitoring Locations

To satisfy relevant noise conditions for the quarry, attended noise monitoring using a Type 1 hand-held sound level meter, will be undertaken quarterly to quantify quarry noise emissions by a suitably qualified and experienced acoustic consultant.

Monitoring will be undertaken at the nearest privately-owned residences (R20) and occur for 1.5 hours in duration over three consecutive days.

Additionally, to supplement this, on the first measurement day, one short term attended measurement of 15 minutes in duration would be completed at two additional locations (R10 and R15) to confirm quarry contributions are negligible at these receivers.

The location of attended noise monitoring will be undertaken approximately:

- on the property boundary closest to the works, where the dwelling is within 30 metre or less from the property boundary; or
- within 30 metre of the dwelling façade (but not closer than 3 metre) when the dwelling is greater than 30 metre from the property boundary closest to the works;
- within 50 metre of the boundary of a National Park or a Nature Reserve; or where access is not possible to any receiver location, an intermediate position between the receiver and the quarry will be selected.

The site layout and monitoring locations are presented in **Figure 1**.

Triggers that will necessitate attended noise monitoring in addition to the quarterly assessment include:

- Significant alterations or changes to onsite plant or operational practices; or
- Community complaints regarding noise emissions.

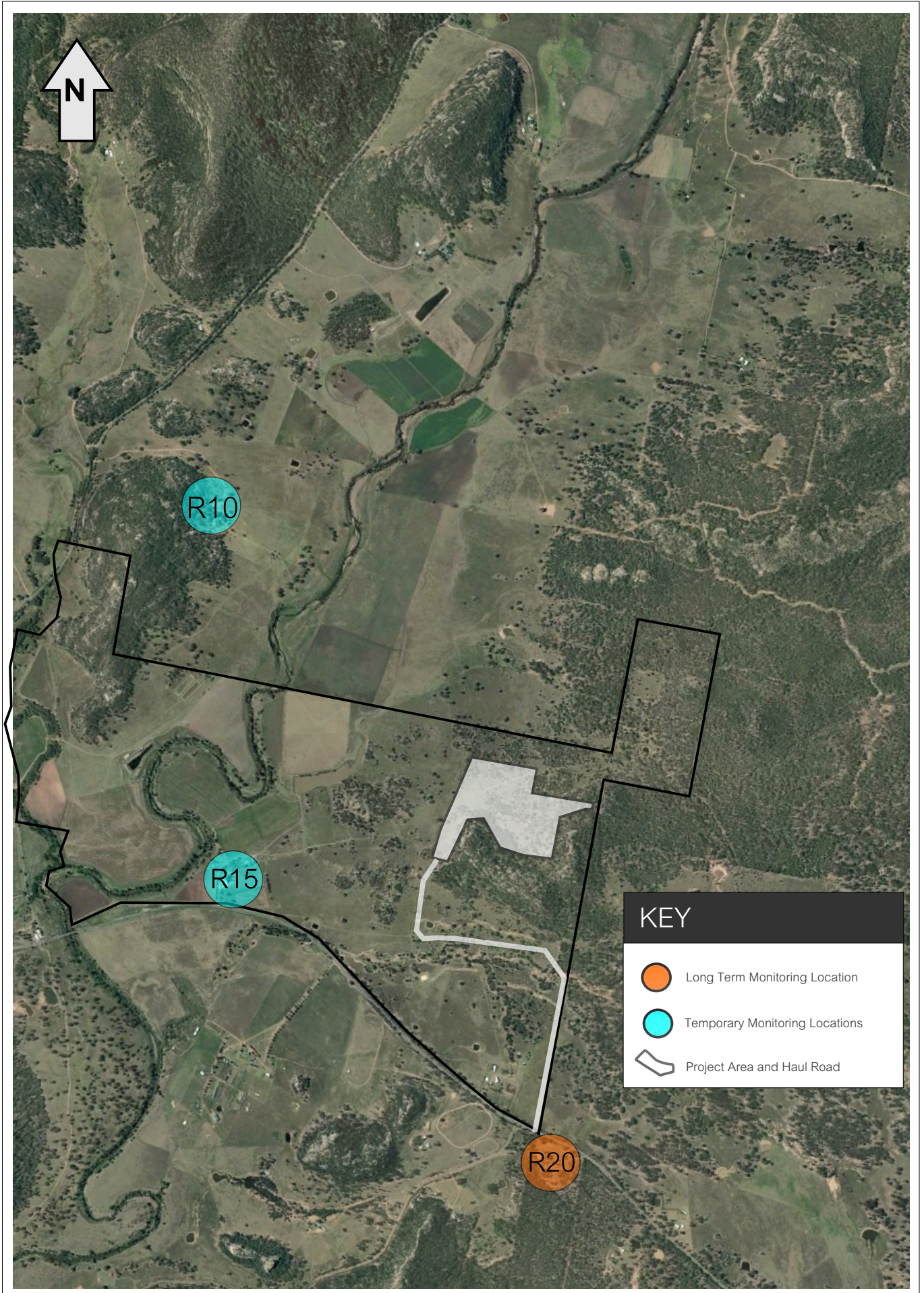


FIGURE 1 - PROPOSED NOISE MONITORING LOCATIONS

DOLWENDEE QUARRY



4.2 Operational Attended Monitoring Exceedance Methodology

If attended noise monitoring indicates that noise generated from the project is higher than noise limit criteria the following actions will occur:

- On observing exceedance information during attended noise monitoring, the person undertaking the monitoring will contact the Plant Manager and inform them of the noise level and location of the noise exceedance.
- The Plant Manager will immediately investigate the source of the noise and make necessary arrangements to alter operations to reduce noise levels.
- The Plant Manager will inform the person undertaking the noise monitoring when site operations have been altered.
- The person undertaking the monitoring will recheck and confirm noise levels with the Plant Manager.

All attended noise surveys for the project site shall be conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL.

The acoustic instrumentation used for the assessment will carry current NATA calibration and comply with AS IEC 61672.1-2004-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation will be checked prior to and following measurements.

The Plant Manager will immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the quarry must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

4.3 Incident Reporting

In accordance with Schedule 5, Condition 7, the Plant Manager will immediately notify DPE and any other relevant agencies after it becomes aware of an incident resulting in unauthorised noise impacts. The notification will be in writing through the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

The development consent defines an 'incident' as "a set of circumstances that causes material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria" in the DC.

In accordance with EPL 21293, notifications of environmental harm must be made by telephoning the Environment Line service on 131 555. The quarry must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. The quarry or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Protection of the Environment Operations Act 1997.

4.4 Responsibility, Community Concerns and Complaints

Responsibility for noise management from site, predominantly lies with the Plant Manager, especially with respect to managing noise emissions from site and community consultation.

Notwithstanding, all site staff share the responsibility in minimising noise, whether from general operation of plant, to identifying potential issues that may lead to increasing off-site noise levels such as faulty mufflers or inefficient operating methods. Additionally, truck drivers share responsibility in minimising noise whilst on and off-site by reducing tailgate 'clanging', eliminating the use of compression brakes and avoiding rapid acceleration.

Where community concerns or complaints pertaining to noise emissions are received the quarry Plant Management will:

- log the details of the complaint and immediately investigate the complaint and the source of the noise.
- document the prevailing meteorological conditions (such as wind and temperature inversions) when investigating noise complaints to assist in the development of possible amelioration measures. It is noted that inversions for the site are anticipated to have a limited influence on received noise levels due to distance of receivers, topography and hours of operation (ie daytime quarry operations).
- relocate or isolate the particular noise source where it is obvious that a particular noise source from the quarry is responsible for elevated noise emissions.
- conduct source identification and sound power testing following receipt of community concern or complaints.
- travel to the approximate location of the complaint and assess whether the noise nuisance has been mitigated and confirm with the complainant if the noise in question has been mitigated.
- discuss the subsequent results with the complainant to ensure a resolution is reached. If a resolution cannot be reached the EPA will be contacted.
- where required, the quarry Plant Manager may need to engage a suitably qualified acoustic consultant to complete attended compliance testing to validate compliance.
- record and report the results of investigations and any amelioration activities in the annual review.

4.5 Ongoing Review and Improvements

The quarry will ensure ongoing review and implementation of this ONMP.

The Plant Manager (or delegate) will review and resubmit the NMP at least every three years, when significant changes are made to the quarry operations, when updates to the plan are required, or as directed by regulatory authorities.

The review process is to reflect changes in any environmental legislation and guidelines since the drafting of the NMP, and/or changes in technology or operational procedures at the quarry. Any changes will be made in consultation with relevant regulatory authorities.

Appendix A – Glossary of Terms

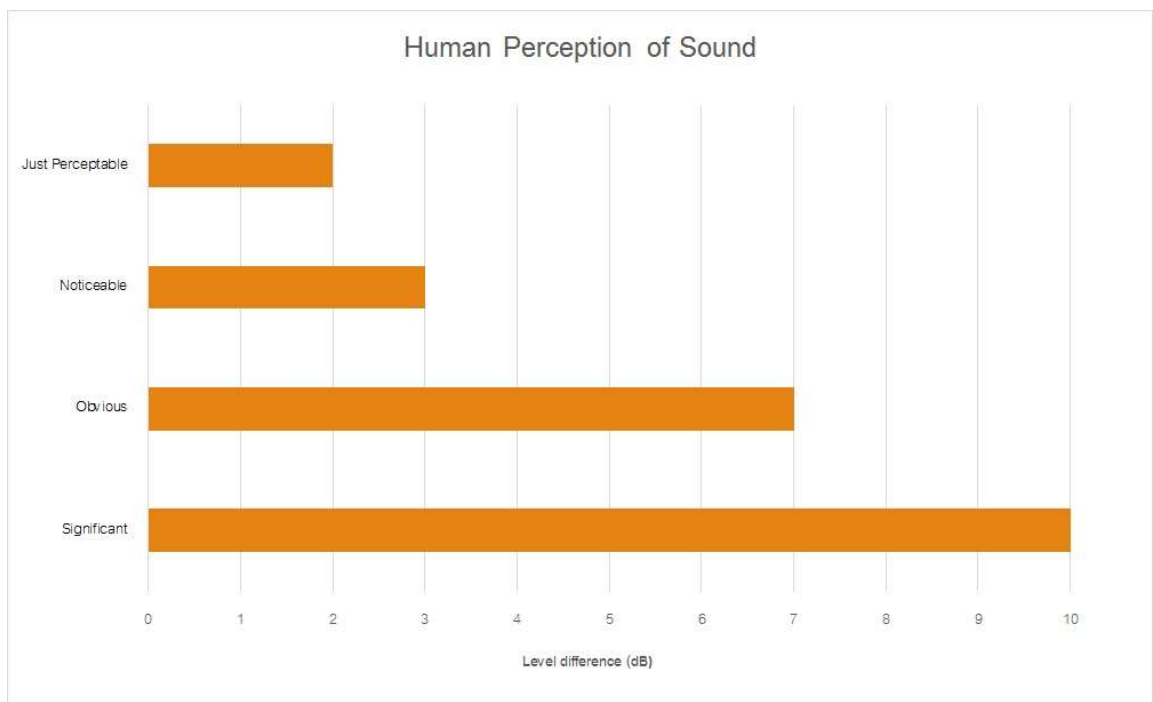
A number of technical terms have been used in this report and are explained in the Table A1.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the INP as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The noise associated with a given environment. Typically, a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAmx	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ <p>Where : W is the sound power in watts and W₀ is the sound reference power at 10-12 watts.</p>

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Development Consent Conditions

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I approve the development application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the development.



Oliver Holm
Executive Director
Resource Assessments and Compliance

Sydney 25th November 2016

SCHEDULE 1

Application Number	SSD 6519
Applicant	Upper Hunter Holdings Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 1 DP 1160936 Lot 2 DP 1160936 Lot 3 DP 1160936 Lot 4 DP 1160936 Lot 1 DP 1178562
Development	Dolwendee Quarry Project

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DEFINITIONS

Aboriginal item or object	Any item or object that provides evidence of the use of an area by Aboriginal people, as defined under the <i>National Parks and Wildlife Act 1974</i>
AHD	Australian Height Datum
Annual Review	The review required by condition 9 of Schedule 5
Applicant	Upper Hunter Holdings Pty Ltd, or any other person/s who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS and depicted conceptually in Appendix 5
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in Schedules 2 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Muswellbrook Shire Council
Date of commencement	The date notified to the Department by the Applicant under condition 9 of Schedule 2
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development as described in the documents listed in condition 2(a) of Schedule 2
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy within the NSW Department of Industry
EIS	Environmental Impact Statement titled <i>Dolwende Quarry Project</i> dated 3 December 2015, the Applicant's <i>Response to Submissions Report</i> dated 6 July 2016 and <i>Supplementary Response to Submissions Report</i> dated 17 October 2016
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
GPS	Global Positioning System
Incident	A set of circumstances that: <ul style="list-style-type: none"> • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent <i>NSW Industrial Noise Policy</i> (NSW EPA, 2000)
INP	
Laden trucks	Trucks (including truck and dog combinations) transporting quarry products from the site
Land	As defined in the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent, where it is defined as the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (including its directors or subsidiaries), another quarry-owning, or mine-owning company
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal of vegetation, topsoil and overburden
Quarry products	Includes all saleable quarry products, but excludes tailings and other wastes
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition and for the purpose of establishing a safe, stable and non-polluting environment
RFS	Rural Fire Service
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
Site	The land identified in Schedule 1

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant must carry out the development:
 - (a) generally in accordance with the EIS; and
 - (b) in accordance with the Development Layout Plans and the conditions of this consent.

Note: The Development Layout Plans are shown in Appendix 2.

3. If there is any inconsistency between the documents in condition 2(a), the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail over all documents in condition 2(a) to the extent of any inconsistency.
4. The Applicant must comply with any requirement/s of the Secretary arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents);
 - (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this consent; and
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying Operations

5. The Applicant may carry out quarrying operations on the site for a period of 21 years from the date of commencement.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

6. The Applicant must not undertake quarrying operations below a level of 130 m AHD.
7. The Applicant must not extract more than 250,000 tonnes of quarry products from the site in any calendar year.

Quarry Product Transport

8. The Applicant must not:
 - (a) transport more than 250,000 tonnes of quarry products from the site in any calendar year; and
 - (b) dispatch more than 30 laden trucks from the site on any day.

NOTIFICATION OF COMMENCEMENT

9. Prior to commencing any development under this consent, the Applicant must notify the Department in writing of the date it will commence development under this consent.

STRUCTURAL ADEQUACY

10. The Applicant must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works; and*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development or project.*

PROTECTION OF PUBLIC INFRASTRUCTURE

11. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
 - (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

12. The Applicant must ensure that all the plant and equipment used at the site is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

PRODUCTION DATA

13. The Applicant must:
 - (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 9 of Schedule 5).

IDENTIFICATION OF APPROVED EXTRACTION LIMITS

14. Prior to commencing quarrying operations under this consent, unless otherwise agreed with the Secretary, the Applicant must:
 - (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
15. While quarrying operations are being carried out, the Applicant must ensure that these boundaries are clearly marked at all times in a manner that allows operating staff to clearly identify the approved limits of extraction.
16. The Applicant must ensure that:
 - (a) no extraction of extractive materials takes place outside the approved limits of the extraction area; and
 - (b) no infrastructure is constructed outside the approved limits of the infrastructure area.

**SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS**

NOISE

Hours of Operation

1. The Applicant must comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Permissible Hours
Construction and quarrying operations including loading and dispatch of laden trucks	<ul style="list-style-type: none"> • 7 am to 6 pm Monday to Friday • 8 am to 1 pm Saturday • At no time on Sundays or public holidays
Blasting	9 am to 5 pm Monday to Friday (except public holidays)
Maintenance	At any time, provided that these activities are not audible at any privately-owned residence

2. The following activities may be carried out on the site outside the hours specified in condition 1:
- (a) delivery or dispatch of materials as requested by Police or other authorities; and
 - (b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

In such circumstances, the Applicant must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

Noise Impact Assessment Criteria

3. The Applicant must ensure that the noise generated by the development does not exceed 35 dB(A) L_{Aeq} (15 minute) at any residence on privately-owned land (see Figure 7 in Appendix 3).

Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Industrial Noise Policy*. Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria above do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Operating Conditions

4. The Applicant must:
- (a) implement best practice management to minimise the construction, operational and road transportation noise of the development;
 - (b) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 4);
 - (c) carry out noise monitoring at least every three months, or as otherwise agreed with the Secretary to determine whether the development is complying with the relevant conditions of this consent; and
 - (d) regularly assess noise monitoring data and modify and/or stop operations on site, as required, to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.

Note: Required frequency of noise monitoring may be reduced if approved by the Secretary.

Noise Management Plan

5. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless otherwise agreed by the Secretary;
 - (c) describe the measures that would be implemented to ensure:
 - compliance with the noise criteria in this consent;
 - best practice noise management is being employed; and

- noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 4).

The Applicant must implement the approved Noise Management Plan as approved from time to time by the Secretary.

BLASTING

Blasting Impact Assessment Criteria

6. The Applicant must ensure that blasting on site does not cause any exceedance of the criteria in Table 2.

Table 2: Blasting Criteria

Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Any residence on privately-owned land	120	10	0%
	115	5	No more than once in a calendar year

However, these criteria do not apply if the Applicant has a written agreement with the relevant owner to exceed the limits in Table 2, and the Applicant has advised the Department in writing of the terms of this agreement.

Blasting Frequency

7. The Applicant may carry out a maximum of 1 blast per calendar month, unless with the prior approval of the Secretary or an additional blast is required following a blast misfire. This condition does not apply to blasts required to ensure the safety of the quarry or workers on site.

Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the quarry.

Operating Conditions

8. During blasting operations, the Applicant must:
- implement best practice management to:
 - protect the safety of people and livestock in the areas surrounding blasting operations;
 - protect public or private infrastructure/property in the surrounding area from damage from blasting operations; and
 - minimise the dust and fume emissions of blasting;
 - operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule on site; and
 - carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Blast Management Plan

9. The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA;
 - be submitted to the Secretary for approval prior to the commencement of quarrying operations under this consent, unless otherwise agreed by the Secretary;
 - describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this consent;
 - establish a consultation protocol to avoid simultaneous blasting events with the nearby Mangoola coal mine;
 - include measures to manage flyrock;
 - include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent;
 - include a protocol for investigating and responding to complaints; and
 - include community notification procedures for blasting, particularly to nearby residences on privately-owned land.

The Applicant must implement the approved Blast Management Plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Impact Assessment Criteria

10. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 3 at any residence on privately-owned land.

Table 3: Air quality criteria

Pollutant	Averaging Period	Criterion	
Particulate matter < 10 µm (PM ₁₀)	Annual	a,d 30 µg/m ³	
Particulate matter < 10 µm (PM ₁₀)	24 hour	b 50 µg/m ³	
Total suspended particulates (TSP)	Annual	a,d 90 µg/m ³	
^c Deposited dust	Annual	b 2 g/m ² /month	a,d 4 g/m ² /month

Notes to Table 3:

a Cumulative impact (ie increase in concentrations due to the development plus background concentrations due to all other sources).

b Incremental impact (ie increase in concentrations due to the development alone, with zero allowable exceedances of the criteria over the life of the development).

c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.

e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 11 and 12 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

Operating Conditions

11. The Applicant must:
- implement all best practice management to minimise dust emissions of the development, including using water carts, water sprays or other suitable controls to minimise dust generation on haul roads, stockpiles and processing areas;
 - regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent;
 - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d under Table 3);
 - monitor and report on compliance with the relevant air quality conditions in this consent; and
 - minimise the surface disturbance of the site by the development and undertake progressive rehabilitation;
- to the satisfaction of the Secretary.

Air Quality Management Plan

12. The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA;
 - be submitted to the Secretary for approval prior to the commencement of development under this consent, unless otherwise agreed by the Secretary;
 - describe the measures that would be implemented to ensure:
 - compliance with the relevant conditions of this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;
 - describe the air quality management system in detail;
 - include an air quality monitoring program that:
 - is capable of evaluating the performance of development;
 - includes a protocol for determining any exceedances of the relevant conditions of consent;
 - effectively supports the air quality management system; and
 - evaluates and reports on the adequacy of the air quality management system.

The Applicant must implement the approved Air Quality Management Plan as approved from time to time by the Secretary.

Meteorological Monitoring

13. For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

Greenhouse Gas Emissions

14. The Applicant must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.

SOIL AND WATER

Water Supply

15. The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply, to the satisfaction of the Secretary.

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain all necessary water licenses for the development.

Water Discharges

16. The Applicant must comply with the discharge limits in any EPL, or with section 120 of the POEO Act.

Soil and Water Management Plan

17. The Applicant must prepare a Soil and Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced person/s endorsed by the Secretary;
 - (b) be prepared in consultation with the EPA and DPI Water;
 - (c) be submitted to the Secretary for approval prior to commencement of development under this consent, unless otherwise agreed by the Secretary;
 - (d) include a:
 - i) Site Water Balance that includes:
 - details of:
 - sources and security of water supply;
 - water use and management on site;
 - any off-site water transfers; and
 - reporting procedures; and
 - measures that would be implemented to minimise clean water use on site;
 - ii) Erosion and Sediment Control Plan that:
 - is consistent with the requirements of the Landcom's Managing Urban Stormwater: Soils and Construction manual (Volume 2E Mines and Quarries);
 - identifies activities that could cause soil erosion and generate sediment;
 - describes measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - describes the location, function and capacity of erosion and sediment control measure structures; and
 - describes what measures would be implemented to maintain (and if necessary decommission) the structures over time.
 - iii) Surface Water Management Plan that includes:
 - detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the development;
 - surface water impact assessment criteria;
 - a protocol for managing any exceedances of the surface water impact assessment criteria;
 - a description of any water licences used to account for take from surface water sources;
 - a detailed description of the surface water management system on site including the:
 - clean water diversion system;
 - dirty water management system;
 - water storages, including their capacity to contain dirty water during flood events;

- o irrigation areas; and
 - o design of creek and stream crossings; and
 - a program to monitor and report on:
 - o the effectiveness of the water management system;
 - o any surface water discharges, including overflows from the sediment dam;
 - o the quality of water discharged from the site to the environment, if any;
 - o surface water flows and quality in local watercourses, if required; and
 - o the quantity, duration and weather conditions under which water is obtained from the supplementary water supply; and
 - o a procedure including trigger levels to inform decisions to scale back operations and/or stop extraction, processing and/or the transport of material to and from the site as may be required by condition 15 above;
- (e) Groundwater Management Plan that includes:
- i) a description of water licences used to account for take from a ground water source;
 - ii) a monitoring program of groundwater levels and quality that includes:
 - threshold water level criteria (and warning trigger levels);
 - contingency measures in the event of a breach of warning trigger levels and/or threshold criteria; and
 - a program to regularly report on the monitoring results, including any exceedances; and
 - (iii) a requirement for the Applicant to consult with DPI Water in the event of any unforeseen groundwater inflows from the quarry face or floor and if required, obtain appropriate water licence(s) to cover the volume of water take.

The Applicant must implement the approved Soil and Water Management Plan as approved from time to time by the Secretary.

TRANSPORT

Construction Traffic Management Plan

18. The Applicant must prepare a Construction Traffic Management Plan to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with Council and the RMS;
 - (b) be submitted for approval to the Secretary prior to the commencement of development under this consent, unless otherwise agreed by the Secretary;
 - (c) detail the management of all vehicle movements associated with the construction phase of the quarry, including the construction of the haul road and the intersection on the Golden Highway; and
 - (d) address:
 - movement of oversized loads (if any) to and from the site;
 - management of construction traffic;
 - any necessary restrictions in the hours of heavy vehicle movements to avoid potential road use conflicts; and
 - transport of construction waste materials.
- to the satisfaction of the RMS.

The Applicant must implement the approved Construction Traffic Management Plan as approved from time to time by the RMS, until the completion of the road construction works to the satisfaction of the RMS and Council.

Construction of the intersection to the Golden Highway

19. Prior to the commencement of quarrying operations under this consent, the Applicant must, at its own expense, design and construct a BAR/AUL type treatment at the proposed intersection of the haul road and the Golden Highway:
- (a) in consultation with Council and the RMS;
 - (b) in accordance with the Austroads *Guide to Road Design 2010* (or its latest version) and any other relevant supplementary document, unless otherwise agreed by the RMS;
 - (c) in accordance with the specific requirements of the RMS, including that:
 - adequate stormwater drainage capacity is provided to contain runoff within the site;
 - the intersection design accommodates the turning path of the largest vehicles that will access the haul road;
 - adequate sight distances are provided for vehicles entering and exiting the site; and
 - advanced intersection and truck turning warning signs and all other necessary road signs must be installed on the Golden Highway;
- to the satisfaction of the RMS.

Notes:

- The Applicant should continue to consult with the RMS to coordinate the design and construction of the new intersection with RMS plans to upgrade the existing intersection of Rosemount Road and the Golden Highway;
- The design of the haul road must include permanent measures to minimise the tracking of material onto the public road network, as required under condition 22(d) below.

Construction of haul road

20. Prior to the commencement of quarrying operations under this consent, the Applicant must design and construct the proposed haul road:
- in accordance with any applicable requirements of the *Guidelines for Controlled Activities on Waterfront Land* (DPI 2012) for the design of waterway crossings for access roads and any associated in stream works;
 - to be aligned to intersect the Golden Highway at a 90 degree angle and be suitably paved for a minimum distance of 50 m extending from the boundary of the site;
 - to ensure adequate stormwater drainage is provided to contain stormwater runoff within the site; and
 - to ensure adequate measures are installed to contain sediment from entering Lynch's Gully.

Monitoring of Product Transport

21. The Applicant must keep accurate records of all laden truck movements to and from the site (including time of arrival and dispatch) and publish a summary of records on its website every 6 months.

Operating Conditions

22. The Applicant must:
- ensure that all laden trucks entering or exiting the site have their loads covered;
 - ensure that all laden trucks exiting the site are cleaned of material that may fall on the road, before leaving the site;
 - use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so they can be easily identified by road users; and
 - allow for the parking of early-arriving trucks (ie before 7 am) to avoid queuing on public roads.

Traffic Management Plan

23. Prior to the commencement of quarrying operations under this consent, unless otherwise agreed by the Secretary, the Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the RMS and Council;
 - include a Drivers' Code of Conduct that details the safe and quiet driving practices that must be used by drivers transporting products to and from the quarry, with a particular focus on:
 - road safety, including, but not limited to turning from/onto the Golden Highway and passing through the town of Denman;
 - informing drivers of the primary haul route via the Golden Highway and to avoid Wybong and Reedy Creek Roads unless these routes are required to supply local deliveries; and
 - minimising the potential for fauna strike;
 - describe the measures that would be put in place to ensure compliance with the Drivers' Code of Conduct; and
 - propose measures to minimise the transmission of dust and tracking of material onto the surface of the public road from vehicles leaving the quarry.

The Applicant must implement the approved Traffic Management Plan as approved from time to time by the Secretary.

HERITAGE

Unexpected Finds Procedure

24. If any item or object of Aboriginal heritage significance is identified on site, the Applicant must ensure that:
- all work in the immediate vicinity of the suspected Aboriginal item or object ceases immediately;
 - a 10 m buffer area around the suspected item or object is cordoned off; and
 - the OEH is contacted immediately.

Work in the vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

25. If any object of non-Aboriginal heritage significance is identified on site, the Applicant must ensure that:
- All work in the immediate vicinity of the suspected item or object ceases immediately; and
 - A suitably qualified and experienced heritage professional or archaeologist is engaged to assess the find and identify if it has significance and how to manage this item within the development

All employees, workers and/or contractors involved in construction and/or excavation are to be made aware of this procedure as part of the site induction, including appropriate examples of what may be considered an unexpected find.

Aboriginal Cultural Heritage Management Plan

26. The Applicant must prepare an Aboriginal Cultural Heritage Management Plan to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH and the Aboriginal community;
 - be submitted to the Secretary for approval prior to the commencement of development under this consent, unless otherwise agreed by the Secretary;
 - include:
 - a description of any additional management or mitigation measures required in response to cultural information relevant to the development and provided to the Applicant during consultation with the Aboriginal community;
 - a description of the measures that would be implemented to protect Aboriginal sites, including any visually significant areas of outcropping sandstone near the project that may be affected by airblast overpressure and/or vibration from blasting activities;
 - a description of the measures that would be implemented if any new Aboriginal objects or human remains are discovered during construction and/or quarry operations;
 - a protocol for ensuring any sites impacted by the development are appropriately recorded and submitted to OEH's AHIMS register;
 - a description of an Aboriginal Cultural Education Induction Program for the induction of all personnel and contractors involved in construction and quarrying operations to be implemented for the life of the development; and a
 - protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of Aboriginal cultural heritage on the site, particularly any Aboriginal objects discovered as part of extraction activities.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

BIODIVERSITY AND REHABILITATION

Biodiversity Offset Strategy

27. The Applicant must implement the Biodiversity Offset Strategy, described in the EIS and shown conceptually in Appendix 5, to the satisfaction of the Secretary.

Security of Offsets

28. Within 12 months of the date of commencement of development under this consent, unless otherwise agreed with the Secretary, the Applicant must make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Strategy, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long-term security to the land within the Biodiversity Offset Strategy in accordance with the NSW Biodiversity Offset Policy for Major Projects 2014, include a Biobanking Agreement, Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Rehabilitation Objectives

29. The Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the rehabilitation strategy in the EIS and the conceptual rehabilitation plan in Appendix 5 and must comply with the objectives in Table 4.

Table 4: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none"> Safe, stable and non-polluting Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land

<i>Surface Infrastructure</i>	<ul style="list-style-type: none"> Decommissioned and removed, unless otherwise agreed by the Secretary; and Landscaped and revegetated using native flora species
<i>Quarry benches and pit floor</i>	Landscaped and revegetated using native flora species
<i>Final Void</i>	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void

Progressive Rehabilitation

30. The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.

Biodiversity and Rehabilitation Management Plan

31. The Applicant must prepare a Biodiversity and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with Council and OEH;
 - be submitted to the Secretary for approval prior to the commencement of development under this consent, unless otherwise agreed;
 - provide details of the conceptual final landform and associated land uses for the site;
 - describe how the implementation of the Biodiversity Offset Strategy would be integrated with the overall rehabilitation of the site;
 - include detailed performance and completion criteria for evaluating the performance of the Biodiversity Offset Strategy and rehabilitation of the site, including triggers for any necessary remedial action;
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site, including within the Biodiversity Offset Strategy area; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial approval of the plan) including the procedures to be implemented for:
 - maximising the salvage of environmental resources within the approved disturbance area, including tree hollows, vegetative and soil resources, for beneficial reuse in the enhancement of the offset area or site rehabilitation;
 - restoring and enhancing the quality of native vegetation and fauna habitat in the biodiversity offset and rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features;
 - protecting native vegetation and fauna habitat outside the approved disturbance area onsite;
 - minimising the impacts on native fauna, including undertaking pre-clearance surveys for the quarry site, haul road and the supplementary water supply pipeline;
 - establishing vegetation screening to minimise the visual impacts of the site on surrounding receivers;
 - ensuring minimal environmental consequences for threatened species, populations and habitats, including for the quarry site, haul road and supplementary water supply pipeline;
 - avoiding and minimising the spread of Myrtle Rust, *Phytophthora cinnamomi* (Phytophthora) and Chytrid fungus;
 - collecting and propagating seed;
 - controlling weeds and feral pests;
 - controlling erosion;
 - managing bushfire risk;
 - include a program to monitor and report on the effectiveness of these measures and progress against the performance and completion criteria;
 - identify the potential risks to the successful implementation of the Biodiversity Offset Strategy and include a description of the contingency measures that would be implemented to mitigate these risks;
 - include details of who would be responsible for monitoring, reviewing and implementing the plan.

The Applicant must implement the approved Biodiversity and Rehabilitation Management Plan as approved from time to time by the Secretary.

Biodiversity and Rehabilitation Bond

32. Within 6 months of the date of approval of the Biodiversity and Rehabilitation Management Plan, the Applicant must lodge a Biodiversity and Rehabilitation Bond with the Department to ensure that the Biodiversity Offset Strategy and rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the plan (Figure 9 in Appendix 6) and relevant conditions of this consent. The sum of the bond must be determined by:
- calculating the cost of implementing the Biodiversity Offset Strategy over the next 3 years;
 - calculating the cost of rehabilitating all disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
 - employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.

Notes:

- If capital and other expenditure required by the Biodiversity and Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for lodgement of a bond in respect of the remaining expenditure.*
 - If the Biodiversity Offset Strategy and/or rehabilitation of the site area are completed (or partially completed) to the satisfaction of the Secretary, then the Secretary will release the bond (or relevant part of the bond). If the Biodiversity Offset Strategy and rehabilitation of the site are not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond and arrange for the completion of the relevant works.*
33. Within 3 months of each Independent Environmental Audit (see condition 10 of Schedule 5), the Applicant must review, and if necessary revise, the sum of the Rehabilitation and/or Conservation Bonds to the satisfaction of the Secretary. This review must consider the:
- effects of inflation;
 - likely cost of implementing the Biodiversity Offset Strategy and rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and
 - performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date.

VISUAL

34. The Applicant must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary.

WASTE

35. The Applicant must:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;
 - minimise the waste generated by the development;
 - ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.
36. Except as expressly in an EPL, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.

LIQUID STORAGE

37. The Applicant must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards

DANGEROUS GOODS

38. The Applicant must ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

BUSHFIRE

39. The Applicant must:
- (a) ensure that the development is suitably equipped to respond to any fires on site; and
 - (b) assist the RFS and emergency services as much as possible if there is a fire in the vicinity of the site.

**SCHEDULE 4
ADDITIONAL PROCEDURES**

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing:
 - (a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision, the Applicant must:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and
 - if the development is not complying with these criteria, then identify measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, record, handle and respond to complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Management Plan Requirements

2. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Revision of Strategies, Plans & Programs

3. Within 3 months of the submission of an:
 - (a) Annual Review under condition 9 below;
 - (b) incident report under condition 7 below;
 - (c) audit report under condition 10 below; and

(d) any modifications to this consent, the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Updating and Staging of Strategies, Plans or Programs

4. To ensure that strategies, plans or programs are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant may prepare a revision of or a stage of a strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.

Notes:

- *While any strategy, plan or program may be submitted on a staged basis, the Applicant will need to ensure that the operations associated with the development are covered by suitable strategies, plans or programs at all times.*
- *If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.*

Adaptive Management

5. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.

COMMUNITY CONSULTATIVE COMMITTEE

6. If directed by the Secretary, the Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. Any such CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments* (Department of Planning, 2007, or its latest version).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.*

REPORTING

Incident Reporting

7. The Applicant must immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

Annual Review

9. By the end of September each year following the commencement of development under this consent, or other timing as may be agreed by the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:
 - (a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - requirements of any plan or program required under this consent;
 - monitoring results of previous years; and
 - relevant predictions in the documents listed in condition 2(a) of Schedule 2;
 - (c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 6 of Schedule 5) and any interested person upon request.

INDEPENDENT ENVIRONMENTAL AUDIT

10. Within a year of the date of commencing development under this consent and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies and (if established) the CCC;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;
 - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
 - (f) be conducted and reported to the satisfaction of the Secretary.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

11. Within 12 weeks of commencing of this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, Council, the EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

ACCESS TO INFORMATION

12. Within 6 months of the commencement of development under this consent, the Applicant must:
 - (a) make the following information publicly available on its website:
 - the documents listed in condition 2(a) of Schedule 2;
 - current statutory approvals for the development;
 - all approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

- a complaints register, updated monthly;
 - the annual reviews of the development;
 - any independent environmental audit, and the Applicant's response to the recommendations in any audit; and
 - any other matter required by the Secretary; and
- (b) keep this information up-to-date, to the satisfaction of the Secretary.

APPENDIX 1
DEVELOPMENT AREA

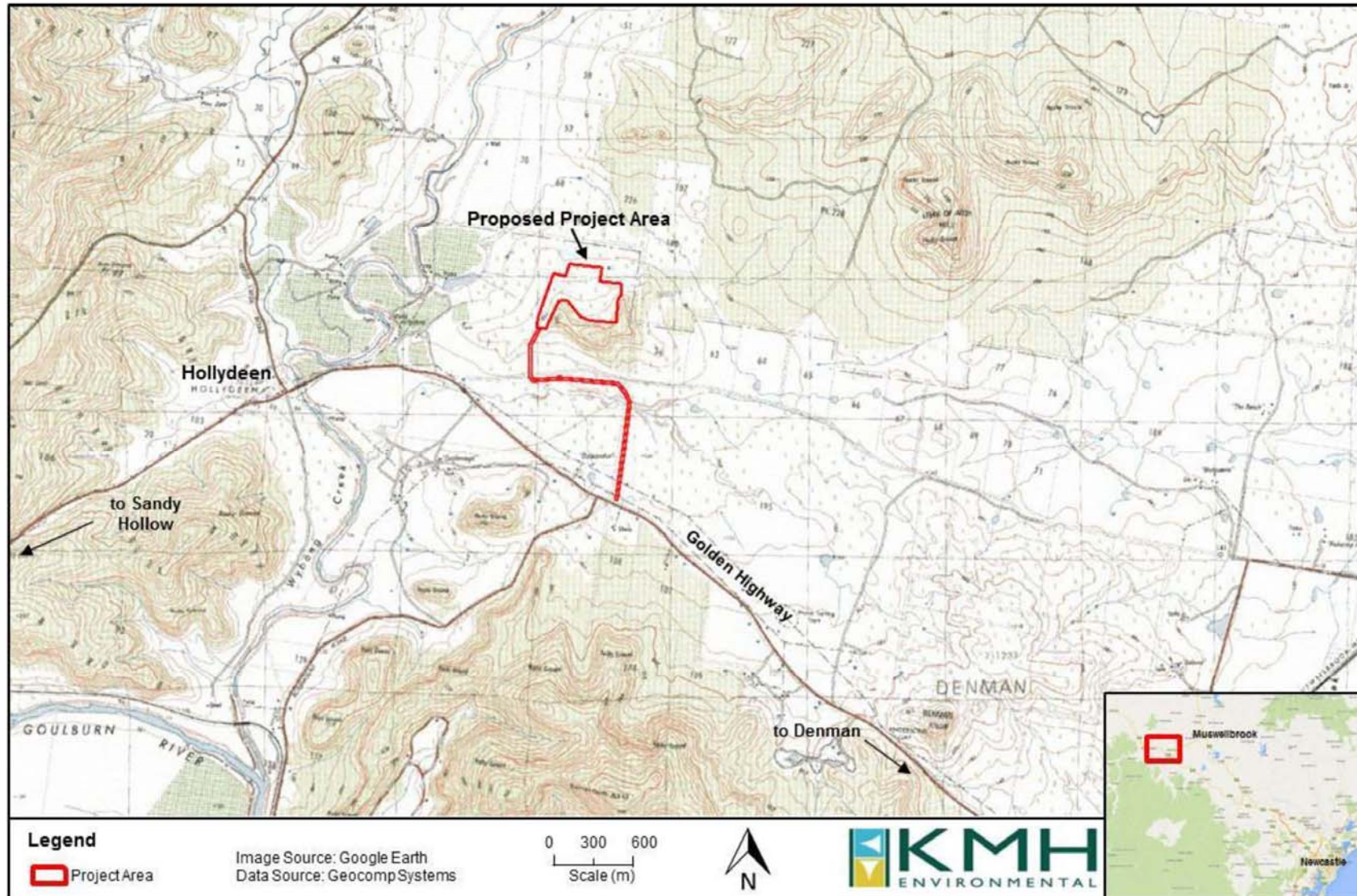


Figure 1: Location of the Dolwendee Quarry Project

**APPENDIX 2
DEVELOPMENT LAYOUT**

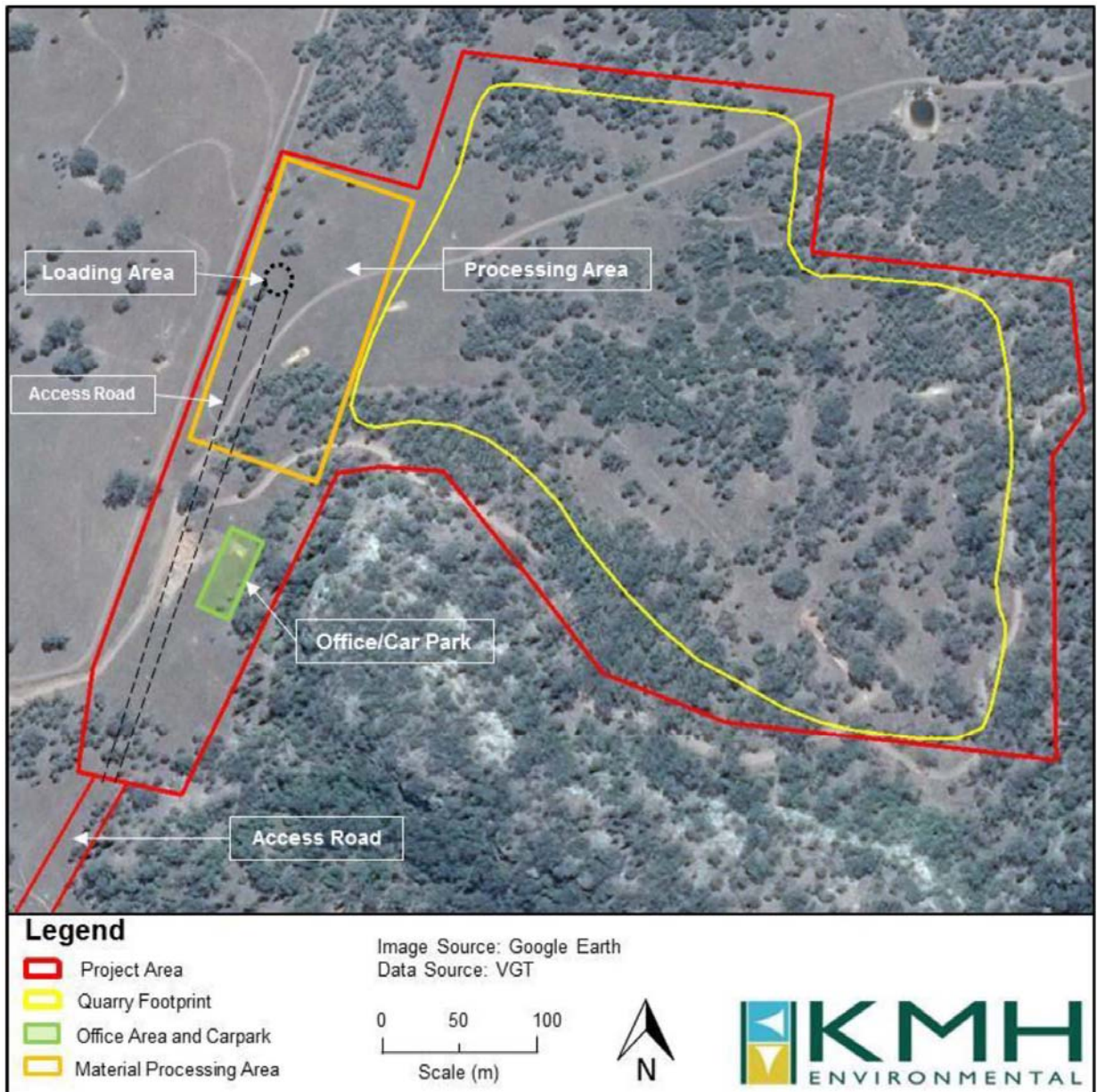




Figure 2: Development layout area

Plan of:	Dolwende Quarry Pit Plan 2015 - Process Area	Location:	Merriva Road, Hollydeen	Source:	N/A	Our Ref:	1257_DQ_PP_C012_V3_F9.dxf	<small>This figure may include confidential party data which has not been verified by vgt and may not be accurate. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.</small>  
Figure:	NINE	Council:	Muswellbrook Shire Council	Survey:	Client Supplied 2014	Plan By:	SKJD	
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	GVT	
Version/Date:	V3 22/07/2015	Client:	Upper Hunter Holdings Pty Ltd	Contour Interval:	5m	Office:	Thornton	

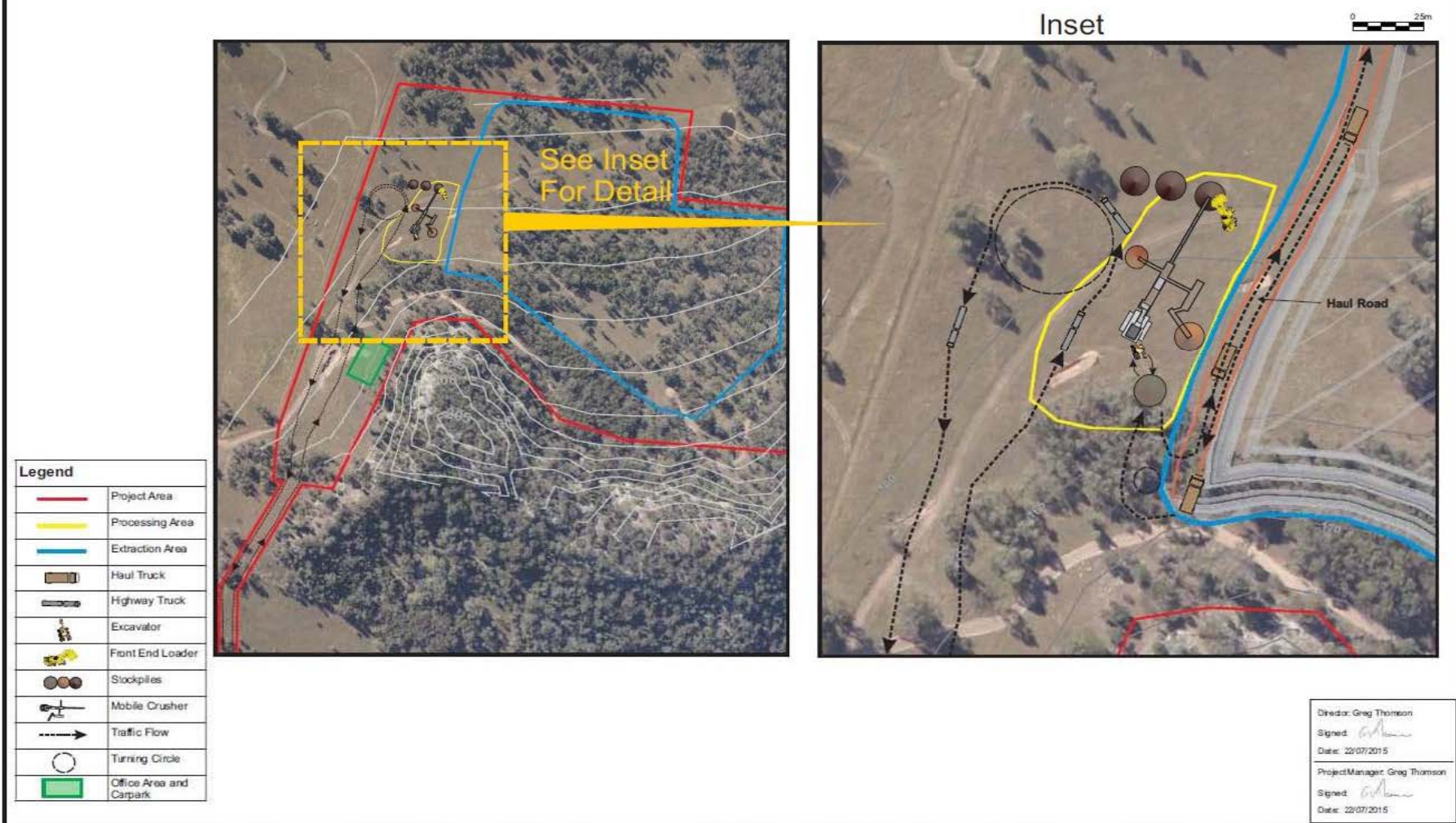


Figure 3: Processing area layout

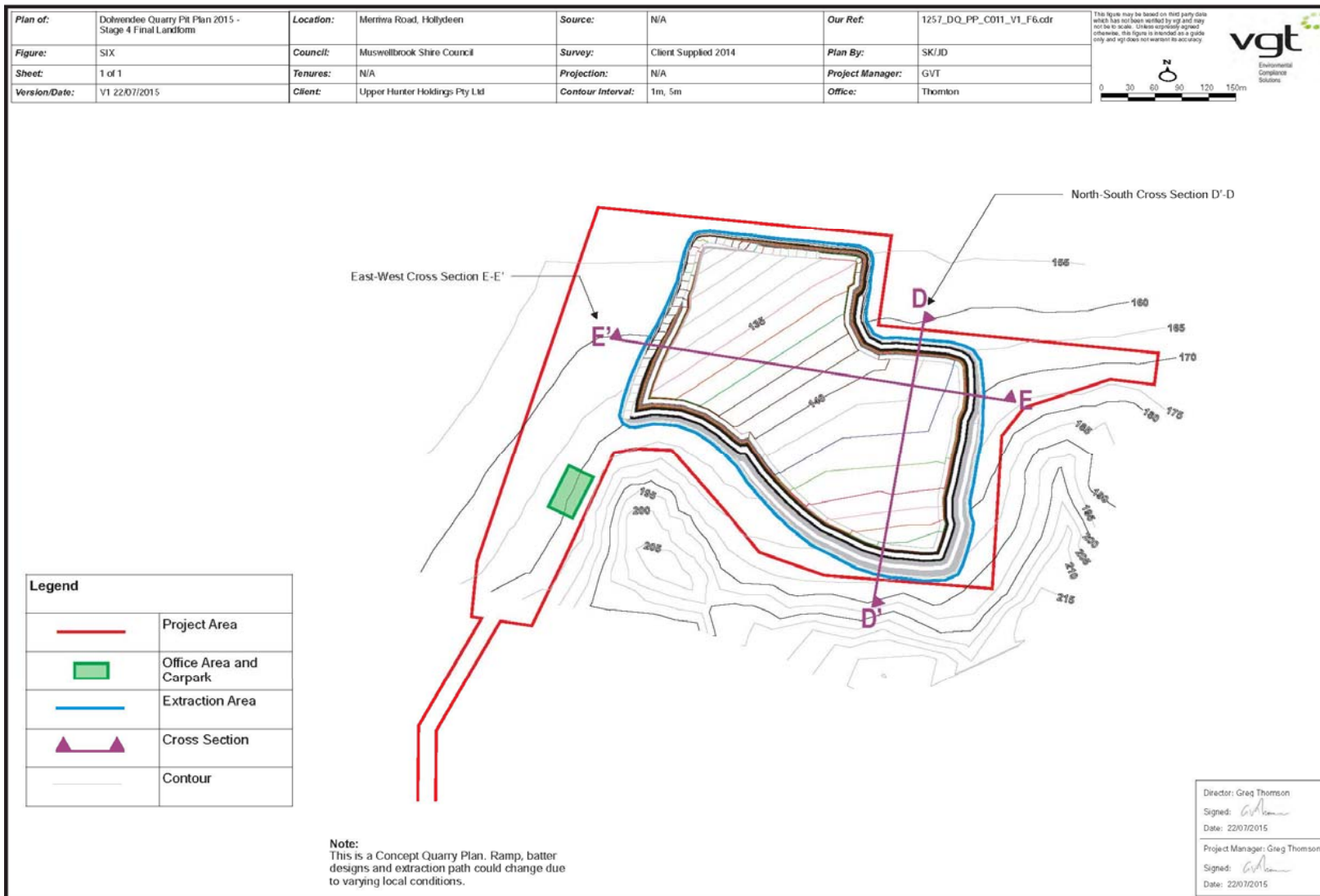

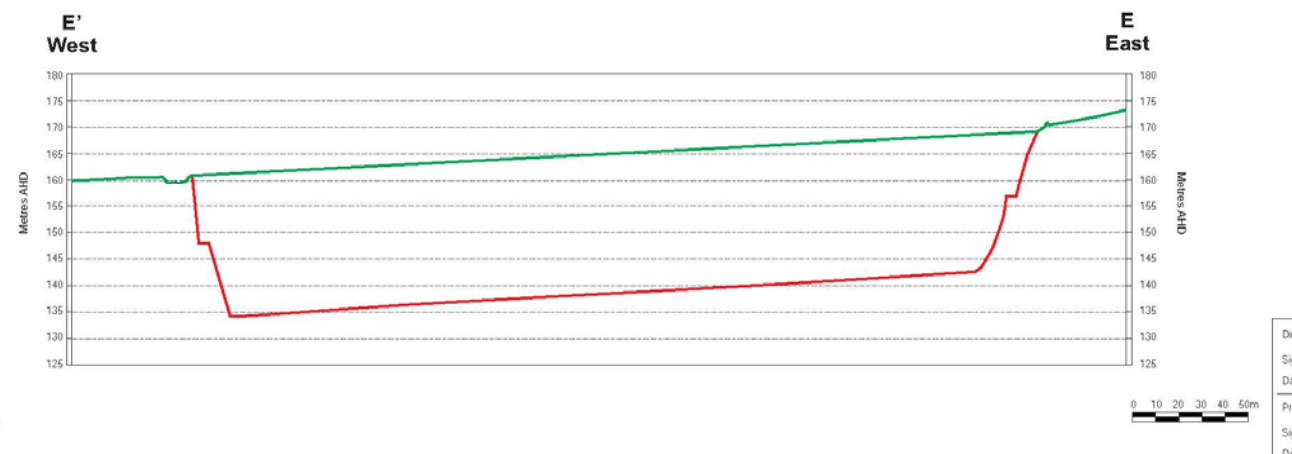
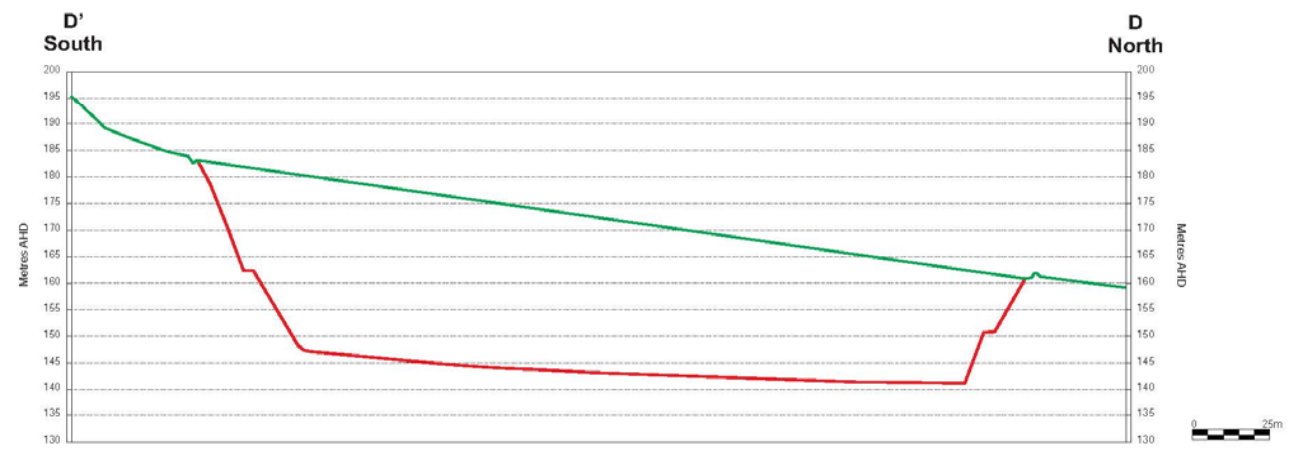


Figure 4: Extraction area (Stage 3)

Plan of:	Dokwende Quarry Pit Plan 2015 - Stage 4 Final Landform Cross Sections D - D' (North-South) and E - E' (East-West)	Location:	Merriva Road, Hollydeen	Source:	N/A	Our Ref:	1257_DO_PP_D-E'_C003_V2_F.cdr	<small>This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.</small> 
Figure:	SEVEN	Council:	Muswellbrook Shire Council	Survey:	Client Supplied 2014	Plan By:	SK/JD	
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	GVT	
Version/Date:	V2 22/07/2015	Client:	Upper Hunter Holdings Pty Ltd	Contour Interval:	N/A	Office:	Thornton	



Legend

— Existing Ground Level

— Proposed Extraction Profile

Director: Greg Thomson
 Signed: *Greg Thomson*
 Date: 22/07/2015

Project Manager: Greg Thomson
 Signed: *Greg Thomson*
 Date: 22/07/2015

Figure 5: Depth of extraction (Stage 3)

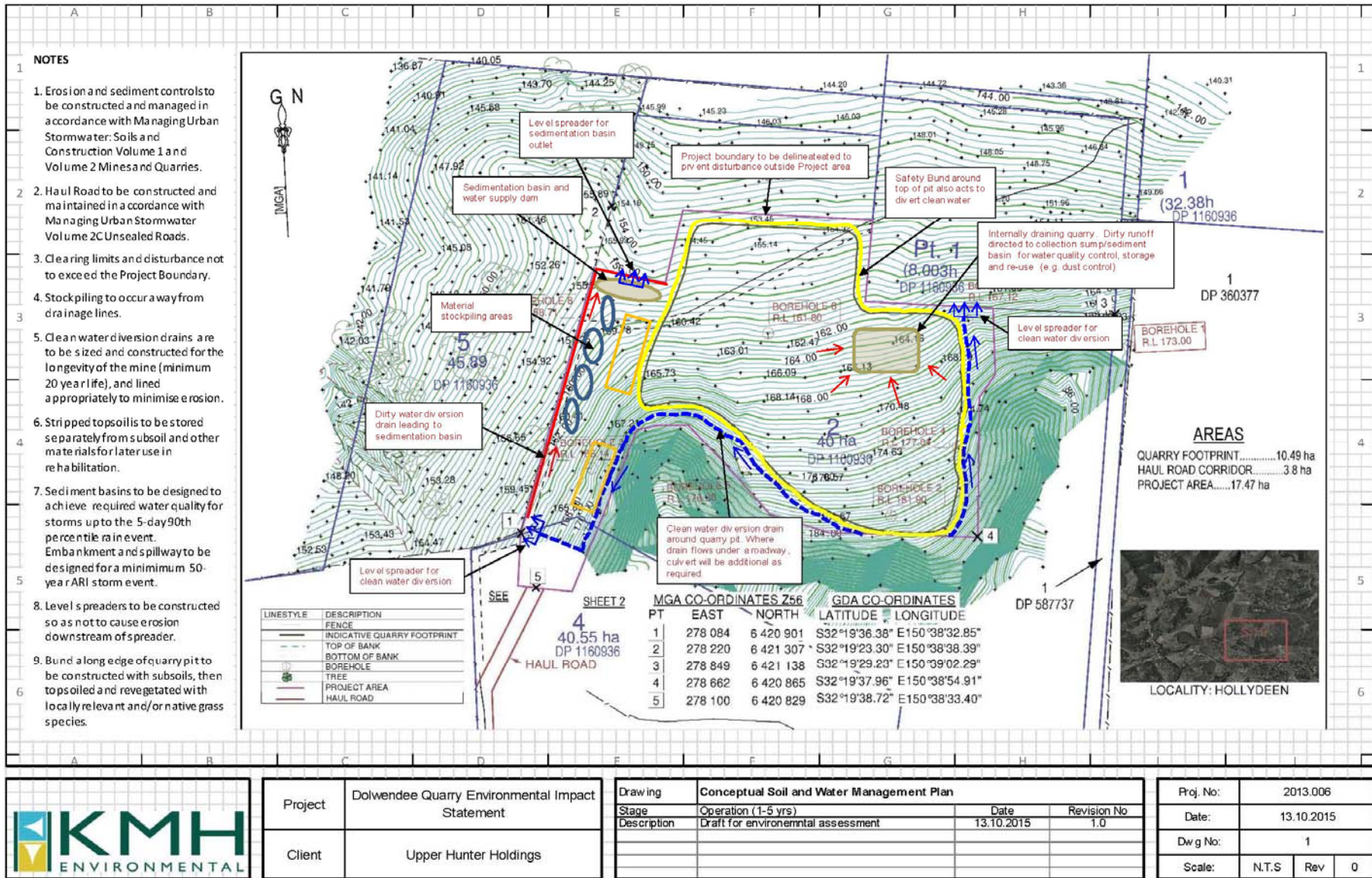


Figure 6: Conceptual soil and water management plan

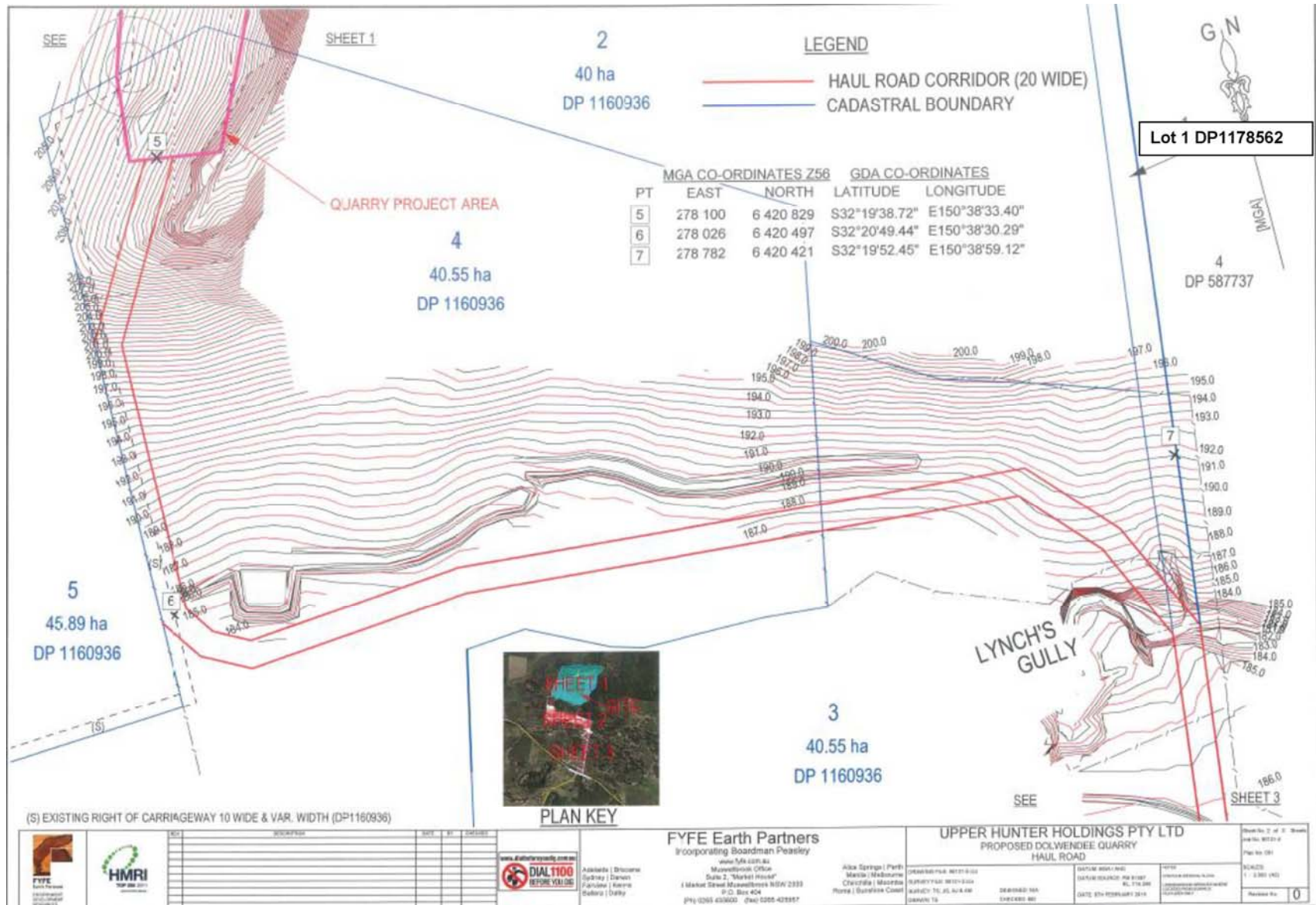


Figure 7: Layout of haul road from quarry

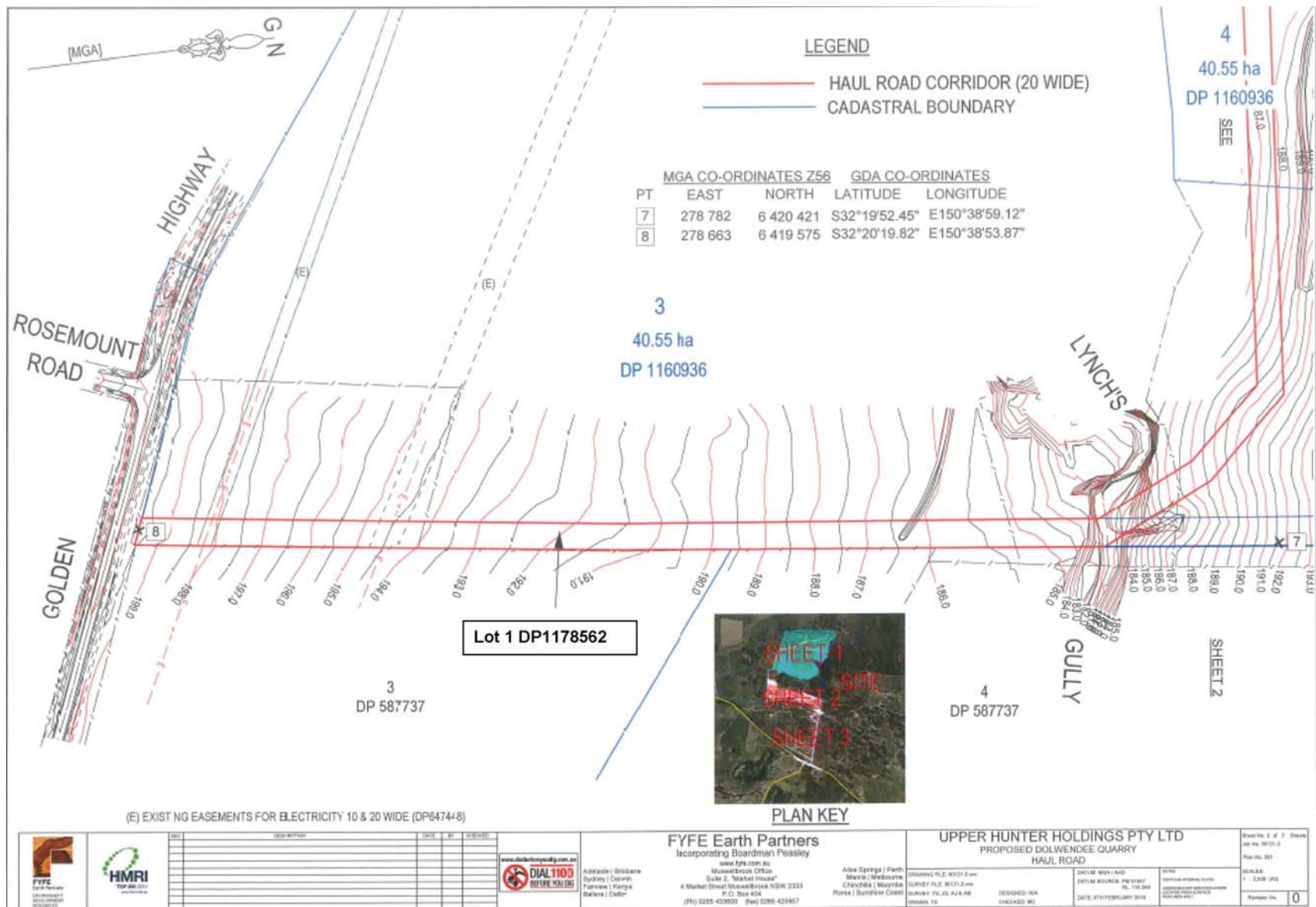


Figure 8: Layout of haul road to Golden Highway

APPENDIX 3
LOCATION OF RECEIVERS

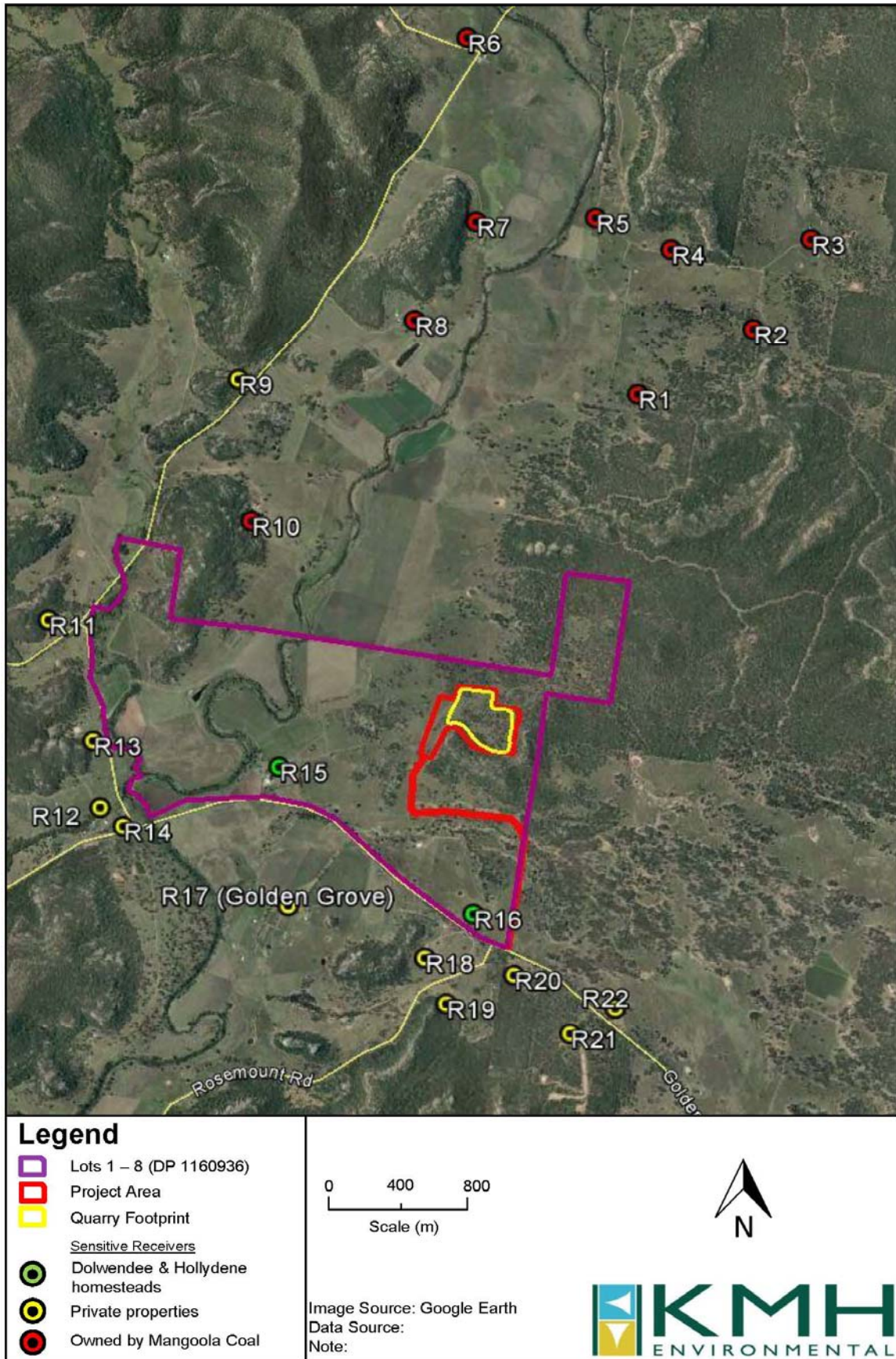


Figure 9: Location of residential receivers

**APPENDIX 4
NOISE COMPLIANCE ASSESSMENT**

Applicable Meteorological Conditions

1. The noise criteria in condition 3 of Schedule 2 are to apply under all meteorological conditions except the following:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 13 of Schedule 3.

Compliance Monitoring

3. A noise compliance assessment must be undertaken within two months of commencement of the proposed quarrying operations. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with noise criteria presented above. A report must be provided to the EPA within 1 month of the assessment.
4. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
 - (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
 - (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the INP) and before comparison with the specified noise levels in the consent.

APPENDIX 5
BIODIVERSITY OFFSET STRATEGY

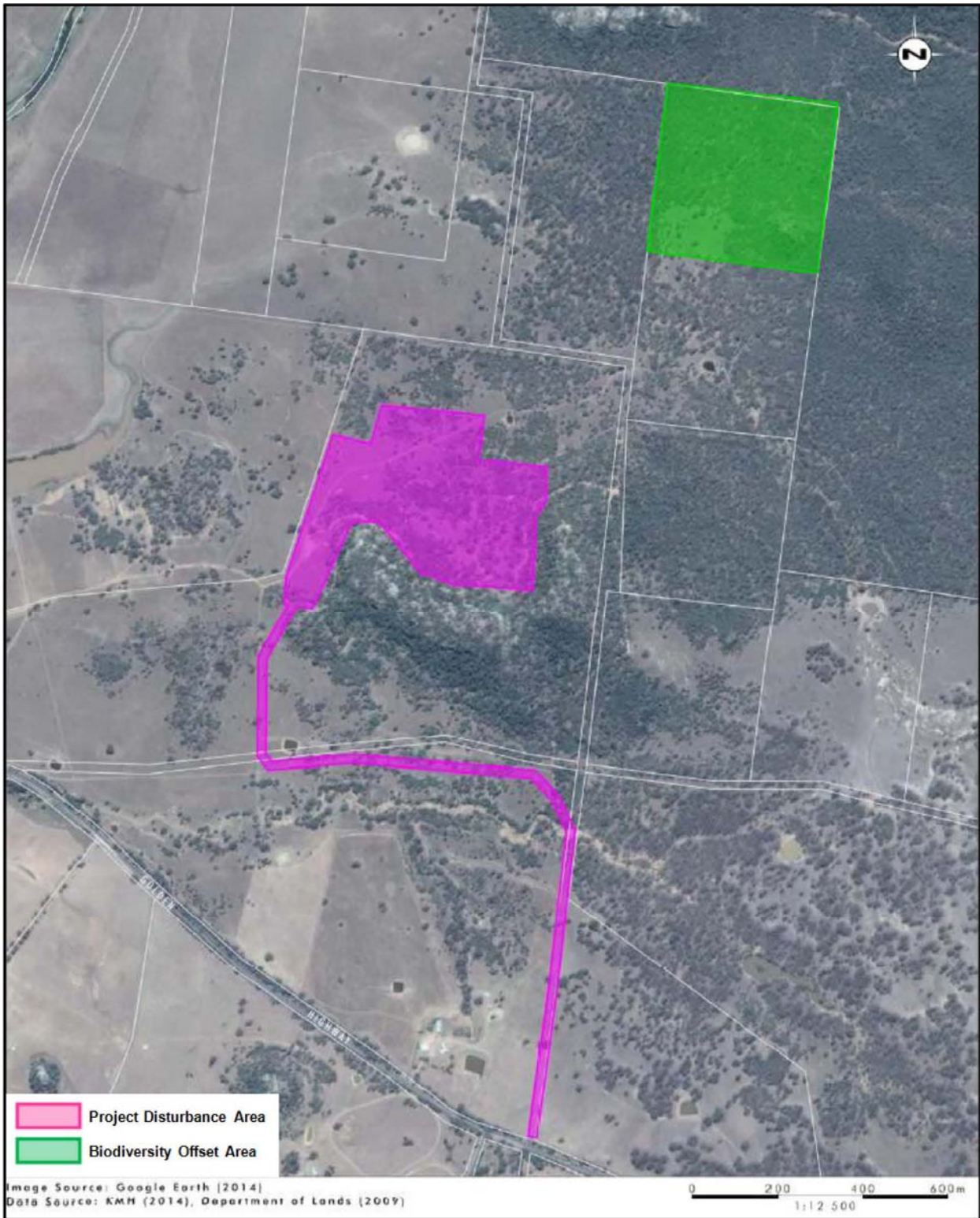


Figure 10: Location of Biodiversity Offset area

APPENDIX 6 CONCEPTUAL REHABILITATION PLAN

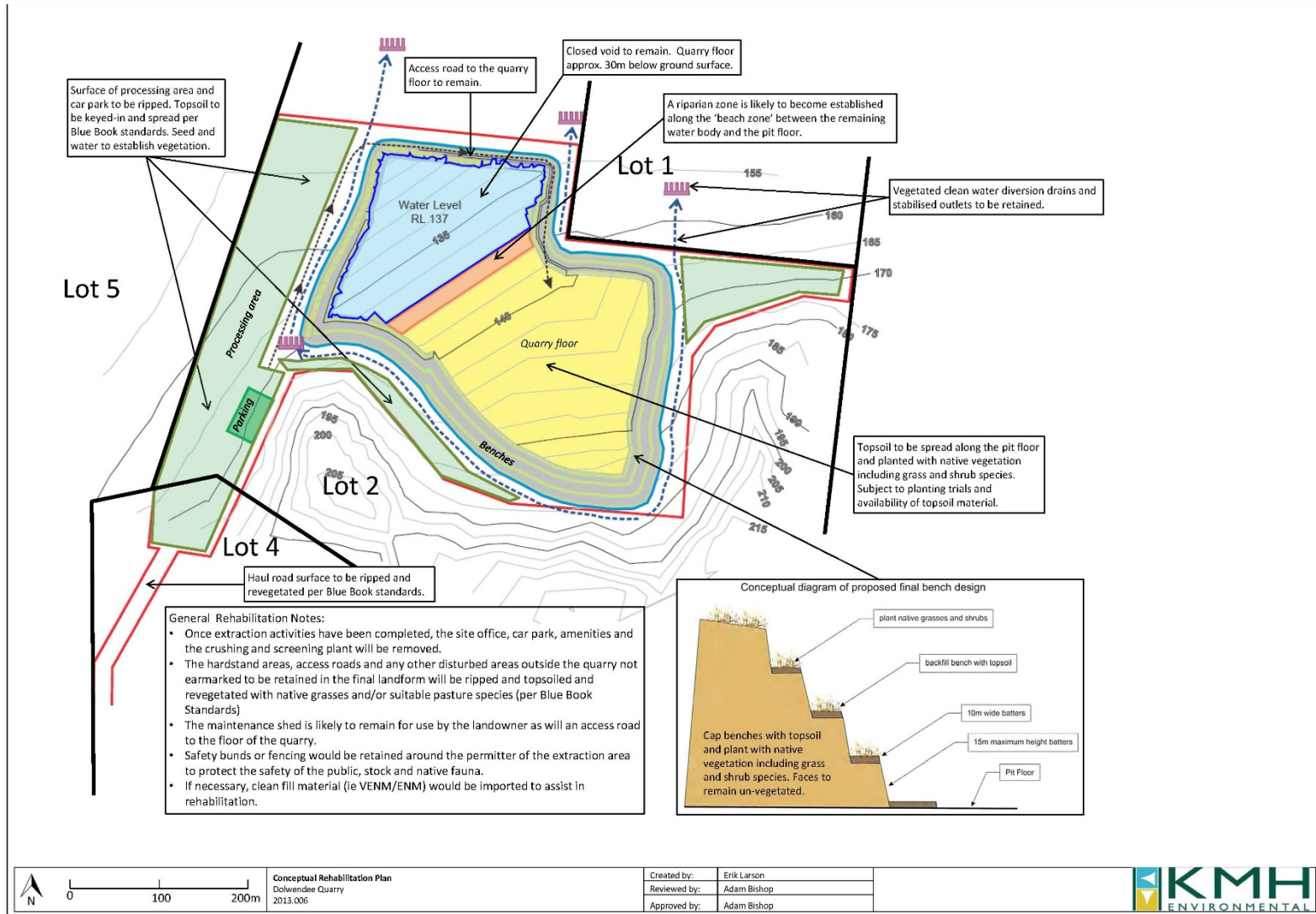


Figure 11: Conceptual rehabilitation plan

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Appendix C – Recommended Conditions of Approval



DOC16/352134; EF13/3101

Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Thomas Watt

Dear Mr Watt

**Response to Submissions
Dolwende Sandstone and Gravel Quarry Project (SSD 6519)**

I refer to the document titled "Dolwende Quarry Project Response to Submissions Report Upper Hunter Holdings Pty Ltd" (the Report), prepared by KMH Environmental and dated 6 July 2016, received by the Environment Protection Authority (EPA) on 7 July 2016.

The EPA has reviewed the Report and provides the comments and updated recommended conditions of approval (at **Attachment 1**) based on this review.

If consent is granted the proponent will need to make a separate application to the EPA for an Environment Protection Licence (EPL) to authorise both scheduled development works and the operation of the proposed Dolwende Quarry.

The EPA provides the following comment to the proponents response provided in the Report:

Wastewater

The EPA notes that the proponent has agreed to provide detailed information regarding the placement and design of the wastewater plant and effluent management system with the EPL application. This information will need to include details of the irrigation area including an assessment of the soils, a water balance, nutrient balances, details of appropriate application rates, and details of any proposed monitoring programs.

Air quality

It is noted that the best practice assessment required by the EPA's SEARS for this project will be undertaken prior to the submission of the required EPL application and that exposed area details will be submitted annually with the EPL Annual Return.

Surface water

The Report indicates that the site water balance shows a net water deficit. As such, it is intended to capture and reuse stormwater to the fullest extent possible. Further, no licensed discharge point is proposed to be established. The EPA advises that detailed information regarding sediment dam design must be submitted with the EPL application. This must demonstrate that the potential for discharge

from sediment dams, as indicated in the Table 73 (pages 156 – 159) of the Environmental Impact Statement (EIS) for the project, is minimised.

Recommended Conditions of Approval

The list below identifies changes to the EPA's previous recommended conditions of approval provided for this project. The numbering in the list below is consistent with

- Condition 2.3 – The inadvertent inclusion of the word coal has been addressed. Term 'coal' removed from this condition.
- Condition 2.4 – The Best Practice Assessment must be undertaken prior to the commencement of operations and be submitted with the EPL application.
- Condition 3.1 – The requirement to establish an automated weather station is a standard requirement for all new quarries of this nature and size. Whilst Bureau of Meteorology weather stations are located within a reasonably short distance from the premises, the measurement of Sigma Theta is required for noise assessment purposes.
- Conditions 4.1-4.4 – The EPA believes automated monitoring of PM₁₀ is appropriate requirement for a new quarry of this nature and size. Both upwind and downwind monitoring is considered appropriate.
- Conditions 5.1-13 – The EPA acknowledges that the site is proposed to be a nil discharge premises. As such conditions relating to discharges have been removed.
- Conditions 17-18 – The EPA notes the acceptance of noise monitoring requirements by the proponent.
- Conditions 19.1-19.9 – The EPA notes the acceptance of blast monitoring requirements by the proponent.
- Conditions 20.1-20.2 – The EPA notes the comments regarding onsite effluent disposal.

The EPA's recommended conditions of approval relate to the development as proposed in the EIS and the Report. In the event that the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes before the consent is issued. This will enable the EPA to determine whether the recommended conditions of approval need to be modified in light of the changes.

If you require any further information regarding this matter please contact Emma Paull on 4908 6828.

Yours sincerely



MICHAEL HOWAT
Acting Head Regional Operations Unit - Hunter
Environment Protection Authority

Encl: **ATTACHMENT 1 - Dolwende Quarry: Recommended conditions of approval: July 2016**

Contact officer: EMMA PAULL
 (02) 4908 6828
 hunter.region@epa.nsw.gov.au

ATTACHMENT 1**DOLWENDEE QUARRY (SSD 6519)
RECOMMENDED CONDITIONS OF APPROVAL**

The conditions provided below are in response to the information detailed in the following reports:

- (a) "Dolwende Quarry Project Environmental Impact Statement Upper Hunter Holdings Pty Ltd" (EIS) prepared by KMH Environmental and dated 3 December 2015; and
- (b) "Dolwende Quarry Project Response to Submissions Report Upper Hunter Holdings Pty Ltd" (the Report), prepared by KMH Environmental and dated 6 July 2016.

General

1. Except as provided by these conditions of approval below, the works and activities must be undertaken in accordance with the EIS.

AIR CONDITIONS**2. General Dust Conditions**

- 2.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.
- 2.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.
- 2.3 All trafficable areas, storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.
- 2.4 The proponent must undertake a Best Practice Assessment in accordance with the 'Coal Mine Particulate Matter Control Best Practice Site-specific determination guideline' (EPA, 2011) prior to any commencement of scheduled development works at the premises. This assessment must be provided with the Environment Protection Licence application.
- 2.5 All haul roads must be constructed and maintained so that a minimum 80% control efficiency of haul road dust is achieved.
- 2.6 If an Environment Protection Licence is granted the proponent must provide with the Annual Return for each reporting period a report detailing the actual area of exposed (disturbed) land against the predictions made in the EIS.

3. Requirement to monitor weather

- 3.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Weather monitor

Parameter	Units of measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	continuous	1 hour	AM-4
Sigma theta	degrees	continuous	10 minute	AM-2 and AM-4
Siting				AM-1
Air Temperature	°C	continuous	10 minute	AM-4

Wind Direction at 10 metres	degrees	continuous	15 minute	AM-2 and AM-4
Wind Speed at 10 metres	metres per second	continuous	15 minute	AM-2 and AM-4

3.2 Monitoring of all parameters listed in Condition 3.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

4. Requirement to monitor ambient particulate matter

4.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Air Quality Monitor(s)

Parameter	Units of measure	Frequency	Averaging Period	Method
PM ₁₀	Micrograms per cubic metre	continuous	1-hour	AS 3580.9.8 - 2008

4.2 The number and location of PM₁₀ monitors must be approved by the EPA prior to the installation of the monitoring equipment.

4.3 As a minimum continuous PM₁₀ monitors must be placed in locations that provide upwind and downwind results adjacent to quarrying operations.

4.4 Monitoring of all parameters listed in Condition 4.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

NOISE CONDITIONS

5. Construction Noise

5.1 All construction work at the premises must be conducted between 7am to 6pm Monday to Friday and between 8am to 1pm Saturdays and at no time on Sundays and public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.

Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

6. Operational Noise

6.1 All quarrying operations, including extraction, processing and loadings / transport must be conducted between 7am to 6pm Monday to Friday and 7am to 1pm Saturdays and at no time on Sundays and public holidays.

7. Limit Conditions

7.1 Noise generated at the premises must not exceed 35dB(A) LA_{eq (15 minute)} at any noise sensitive receiver.

7.2 The noise limits set out in condition 7.1 apply under all meteorological conditions except for the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or

- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

7.3 To determine compliance:

- a) with the $L_{eq(15\text{ minute})}$ noise limit specified above, the noise measurement equipment must be located:
 - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
 - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
 - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- b) with the noise limits specified above, the noise measurement equipment must be located:
 - at the most affected point at a location where there is no dwelling at the location; or
 - at the most affected point within an area at a location prescribed by sections (a) or (b) of this condition.

7.4 A non-compliance of the noise limits specified above will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by condition 7.3 (a) and 7 (b) above; and/or
- at a point other than the most affected point at a location.

7.5 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

7.6 For the purposes of condition 7.3:

- a) Data recorded by the meteorological station identified as EPA Identification Point (Point number to be specified in the Environment Protection Licence) must be used to determine meteorological conditions; and
- b) Temperature inversion conditions (determined using the Sigma Theta method) are to be determined by consistent with Part E4 of Appendix E to the NSW Industrial Noise Policy.

8. Requirement to Monitor Noise

8.1 To assess compliance with Condition 7.1, attended noise monitoring must be undertaken in accordance with Conditions 7.3 and:

- a) At, or at a location representative of, the most-affected sensitive receiver(s);
- b) occur quarterly in a reporting period;
- c) occur 1.5 hours during operating hours
- d) occur for three consecutive operating days.

(Note that if four rounds of quarterly monitoring show compliance with the noise limits in this licence the licensee may apply to the EPA to have the monitoring frequency reduced.)

9. Reporting Conditions

9.1 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limit presented in Condition 7.1;
- b) measurement and reporting of C-weighted noise levels; and
- c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition 7.1.

Additions to Definition of Terms of the licence

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."

10. Blasting and Vibration

- 10.1** Blasting activities at the premises may only be conducted under the following conditions:
- a) Between the hours of 9am to 5pm Monday to Friday. No blasting is permitted Saturdays, Sundays or public holidays;
 - b) Blasting is not permitted simultaneous with adjacent quarry(s); and
 - c) Blasting outside of the hours specified above can only take place with the written approval of the EPA.
- 10.2** The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- 10.3** The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- 10.4** Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- 10.5** Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- 10.6** The airblast overpressure and ground vibration levels in the conditions above do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.
- 10.7** The proponent must monitor all blasts carried out in or on the premises at or near the nearest residence or noise sensitive location (such as a school or hospital) that is likely to be most affected by the blast and that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee relating to alternative blasting limits. Details of the blast monitoring locations must be provided with the EPL application.

- 10.8** The proponent must report any exceedence of the blasting limits to the EPA's Newcastle office as soon as practicable after the exceedence becomes known to the licensee or to one of the licensee's employees or agents.
- 10.9** If an Environment Protection Licence is granted the proponent must supply annually a Blast Monitoring Report with the Annual Return, which must include the following information relating to each blast carried out within the premises during the respective reporting period:
- a) the date and time of the blast;
 - b) the location of the blast on the premises;
 - c) the blast monitoring results at each blast monitoring station; and
 - d) an explanation for any missing blast monitoring results.

11. Wastewater Management

Effluent application to land

- 11.1** The proponent must submit with the Environment Protection Licence application details of the proposed sewage treatment and effluent management/disposal system. This must include detailed design drawings, site plans showing the position and layout of the facilities on site and a land capability assessment where land irrigation of treated effluent is proposed.
- 11.2** The proponent must demonstrate to the EPA that the proposed treatment and disposal of effluent on site is in accordance with the EPA's 'Environmental Guidelines Use of Effluent by Irrigation' (2004).
- 11.3** The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.
- For the purposes of this condition, 'effectively utilise' includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.
- 11.4** Effluent application to the utilisation area(s) must not occur in a manner that causes surface run-off from the utilisation area(s).
- 11.5** Spray from effluent application to the utilisation area(s) must not drift beyond the boundary of the utilisation area(s) to which it has been applied.

12. Sediment and erosion controls

- 12.1** The licensee must, before undertaking any earthmoving or vegetation removal works, implement erosion and sediment control measures to prevent pollution of waters in accordance with Soils and Construction: Managing Urban Stormwater 2004 (Landcom, 2004).
- 12.2** Stormwater from the premises which has the potential to mobilise sediments and must be controlled and diverted through the appropriate sediment and erosion control and/or pollution control measures/structures, so as not to cause, permit or allow water pollution to occur.

13. Bunding

- 13.1** All above ground tanks containing material that is likely to cause environmental harm must be banded or have an alternative spill containment system in place.
- 13.2** Bunds must:
- a) have walls and floors constructed of impervious materials;
 - b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
 - c) have floors graded to a collection sump; and

d) not have a drain valve incorporated in the bund structure,
or be constructed and operated in a manner that achieves the same environmental outcome.

14. Waste

- 14.1** The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence.
- 14.2** The condition above only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

**Environment Protection Authority
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